Cisco Systems

Cisco UCS B200 M4 (Intel Xeon E5-2637 v3 @ 3.50GHz)

**CPU2006 license:** 9019

**Test sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Hardware**

- **CPU Name:** Intel Xeon E5-2637 v3
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz
- **CPU MHz:** 3500
- **FPU:** Integrated
- **CPU(s) enabled:** 8 cores, 2 chips, 4 cores/chip, 2 threads/core
- **CPU(s) orderable:** 1.2 chips
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 256 KB I+D on chip per core
- **L3 Cache:** 15 MB I+D on chip per chip
- **Other Cache:** None
- **Memory:** 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
- **Disk Subsystem:** 1 x 300GB SAS, 15K RPM
- **Other Hardware:** None

**Operating System:** Red Hat Enterprise Linux Server release 6.5 (Santiago)

**Compiler:** C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux

**Auto Parallel:** No

**File System:** ext4

**System State:** Run level 3 (multi-user)

**Base Pointers:** 32-bit

**Peak Pointers:** 32/64-bit

**Other Software:** Microquill SmartHeap V10.0

**Software**

| Test date: | Dec-2014 |
| Hardware Availability: | Sep-2014 |
| Software Availability: | Nov-2013 |

**SPECint®_rate2006 = 473**

**SPECint_rate_base2006 = 457**
Cisco Systems
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SPEC CINT2006 Result

RESULTS TABLE

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SUBMIT NOTES

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

OPERATING SYSTEM NOTES

Stack size set to unlimited using "ulimit -s unlimited"

PLATFORM NOTES

CPU performance set to HPC
Power Technology set to Custom
Processor Power State C6 set to Disabled
Energy Performance set to Performance
Memory RAS configuration set to Maximum Performance
Snoop Mode set to Early Snoop
Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191 running on rhel65new Fri Dec 12 15:52:47 2014

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see: http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo

model name : Intel(R) Xeon(R) CPU E5-2637 v3 @ 3.50GHz
2 "physical id"s (chips)

RESULTS

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.
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SPECint_rate2006 = 473
SPECint_rate_base2006 = 457

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Platform Notes (Continued)

16 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
cpu cores : 4
siblings : 8
physical 0: cores 0 1 4 5
physical 1: cores 0 1 4 5
cache size : 15360 KB

From /proc/meminfo
MemTotal: 264261016 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)

uname -a:
Linux rhel65new 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Dec 12 14:50
SPEC is set to: /opt/cpu2006-1.2

Additional information from dmidecode:
BIOS Cisco Systems, Inc. B200M4.2.2.2.30.071820140250 07/18/2014
Memory:
16x 0xCE00 M393A2G40DB0-CPB 16 GB 2133 MHz 2 rank
8x NO DIMM NO DIMM

(End of data from sysinfo program)

General Notes
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/opt/cpu2006-1.2/libs/32:/opt/cpu2006-1.2/libs/64:/opt/cpu2006-1.2/sh"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
Cisco Systems
Cisco UCS B200 M4 (Intel Xeon E5-2637 v3 @ 3.50GHz)

| SPECint_rate2006 | 473 |
| SPECint_rate_base2006 | 457 |

CPU2006 license: 9019
Test sponsor: Cisco Systems
Test date: Dec-2014
Tested by: Cisco Systems
Hardware Availability: Sep-2014
Software Availability: Nov-2013

General Notes (Continued)

```
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

**C benchmarks:**
- icc -m32

**C++ benchmarks:**
- icpc -m32

Base Portability Flags

- 400.perlbench: -DSPEC_CPU_LINUX_IA32
- 462.libquantum: -DSPEC_CPU_LINUX
- 483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

**C benchmarks:**
- -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
- -opt-mem-layout-trans=3

**C++ benchmarks:**
- -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
- -opt-mem-layout-trans=3 -W1,-z,muldefs -L/sh -lsmartheap

Base Other Flags

**C benchmarks:**
- 403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

**C benchmarks (except as noted below):**
- icc -m32

**400.perlbench:** icc -m64

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**Test date:** Dec-2014
**Hardware Availability:** Sep-2014

**Test sponsor:** Cisco Systems
**Tested by:** Cisco Systems
**Software Availability:** Nov-2013

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**Peak Compiler Invocation (Continued)**

```
401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64
```

C++ benchmarks:
```
icpc -m32```

---

**Peak Portability Flags**

```
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

---

**Peak Optimization Flags**

```
C benchmarks:
400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32
401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32 -ansi-alias
403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div
429.mcf: basepeak = yes
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3
456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll12 -auto-ilp32
458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32
462.libquantum: basepeak = yes
```

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Hardware Availability: Sep-2014
Software Availability: Nov-2013

Peak Optimization Flags (Continued)

464.h264ref:
-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-o3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp:
-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-o3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.astar:
basepeak = yes

483.xalancbmk:
basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc:
-Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revC.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revC.xml

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For other inquiries, please contact webmaster@spec.org.

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